

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A data synchronization apparatus for synchronizing data retained in a plurality of heterogeneous databases comprising:

a data type conversion device in communication with a first database retention device to extract said data from a first database of said heterogeneous databases retained on said first database retention device, said extracted data being converted from a first format of said first database to format types of all remaining of the plurality of heterogeneous databases;

a data attachment device in communication with the data type conversion device to receive the data converted to the format types of the remaining plurality of databases and in communication with the plurality of heterogeneous databases to attach the converted data to the remaining plurality of databases; and

a release mechanism in communication with each of the remaining plurality of heterogeneous databases to receive a permission semaphore indicating that the data is synchronized among the plurality of databases and transfer the permission semaphore to the first database to authorize usage of the database.

2. (Original) The data synchronization apparatus of claim 1 wherein the data type conversion device creates an identification of the data that includes a data identifier and a serial number.

3. (Original) The data synchronization apparatus of claim 1 wherein the release mechanism transfers a status indication of the remaining plurality of heterogeneous databases indicating the completion of the synchronization.

4. (Original) The data synchronization apparatus of claim 1 wherein a database manager of each of the remaining plurality of heterogeneous database reviews the data converted to the format types of each of the remaining plurality of databases and generates one permission semaphore for each of the remaining plurality of heterogeneous databases.

5. (Original) The data synchronization apparatus of claim 1 wherein the first database is a manufacturing information system specification database retaining equipment environment and operational settings of equipment of a manufacturing facility.

6. (Original) The data synchronization apparatus of claim 5 wherein the specification database provides coding for controlling an operation of equipment of an integrated circuit fabrication facility.

7. (Previously Presented) The data synchronization apparatus of claim 5 wherein the remaining plurality of heterogeneous database are included in a content management system documenting the environment and the operational settings of the equipment of a manufacturing facility.

8. (Previously Presented) A manufacturing data synchronization apparatus for synchronizing manufacturing data retained in a manufacturing specification database of a manufacturing information system and a documentation database of a documentation management system, said manufacturing data synchronization apparatus comprising:

a data type conversion device in communication with a manufacturing specification database retention device to extract said manufacturing data from the manufacturing specification database, said extracted data being converted from a first format type of said manufacturing specification database to a second format of the documentation database;

a data attachment device in communication with the data type conversion device to receive the data converted to the second format type and in communication with the documentation database to attach the manufacturing data converted to the second format type to said documentation database; and

a release mechanism in communication with the documentation database to receive a permission semaphore indicating that the manufacturing data is synchronized between the manufacturing specification database of the manufacturing information system and the documentation database of the documentation management system to authorize usage of said manufacturing specification database.

9. (Original) The data synchronization apparatus of claim 8 wherein the data type conversion device creates an identification of the data that includes a data identifier and a serial number.

10. (Original) The data synchronization apparatus of claim 8 wherein the release mechanism transfers a status indication of the documentation database indicating the completion of the synchronization.

11. (Original) The data synchronization apparatus of claim 8 wherein a database manager of the documentation database reviews the manufacturing data converted to the second format type and generates the permission semaphore.

12. (Original) The data synchronization apparatus of claim 8 wherein the manufacturing information system specification database retains equipment environment and operational settings of equipment of a manufacturing facility.

13. (Original) The data synchronization apparatus of claim 12 wherein the specification database provides coding for controlling an operation of equipment of an integrated circuit fabrication facility.

14. (Previously Presented) The data synchronization apparatus of claim 5 wherein the documentation database documents the environment and the operational settings of the equipment of a manufacturing facility.

15. (Previously Presented) A method for synchronizing data retained in a plurality of heterogeneous databases comprising the steps of:

extracting said data from a first database of said heterogeneous databases retained on said first database retention device;

converting said extracted data from a first format of said first database to format types of all remaining of the plurality of heterogeneous databases;

attaching the converted data to the remaining plurality of databases;

receiving a permission semaphore indicating that the data is synchronized among the plurality of databases; and

transferring the permission semaphore to the first database to authorize usage of said first database.

16. (Original) The method of claim 15 wherein converting said extracted data comprises the step of creating an identification of the data that includes a data identifier and a serial number.\

17. (Original) The method of claim 15 wherein receiving a permission semaphore comprises the step of transferring a status indication for the remaining plurality of heterogeneous database indicating the completion of the synchronization.

18. (Original) The method of claim 15 further comprising the steps of:
reviewing by a database manager the data converted to the format types of the remaining plurality of databases; and
generating one permission semaphore for each of the remaining plurality of heterogeneous databases.

19. (Original) The method of claim 14 herein the first database is a manufacturing information system specification database retaining equipment environment and operational settings of equipment of a manufacturing facility.

20. (Original) The method of claim 19 wherein the manufacturing information specification database provides coding for controlling an operation of equipment of an integrated circuit fabrication facility.

21. (Original) The method of claim 19 wherein the remaining plurality of heterogeneous database is included in a content management system documenting the environment and the operational settings of the equipment of a manufacturing facility.

22. (Previously Presented) An apparatus for synchronizing data retained in a plurality of heterogeneous databases comprising:
means for extracting said data from a first database of said heterogeneous databases retained on said first database retention device;
means for converting said extracted data from a first format of said first database to format types of all remaining of the plurality of heterogeneous database;
means for attaching the converted data to the remaining a plurality of database;
means for receiving a permission semaphore indicating that the data is synchronized among the plurality of database; and
means for transferring the permission semaphore to the first database to authorize usage of said first database.

23. (Original) The apparatus of claim 22 wherein said means for converting said extracted data comprise means for creating an identification of the data that includes a data identifier and a serial number.

24. (Original) The apparatus of claim 22 wherein means for receiving a permission semaphore comprises means for transferring a status indication for the remaining plurality of heterogeneous database indicating the completion of the synchronization.

25. (Original) The apparatus of claim 22 further comprising:
means for reviewing by a database manager the data converted to the format types of the remaining plurality of databases; and
means for generating one permission semaphore for each of the remaining plurality of heterogeneous databases.

26. (Original) The apparatus of claim 22 wherein the first database is a manufacturing information system specification database retaining equipment environment and operational settings of equipment of a manufacturing facility.

27. (Original) the apparatus of claim 26 wherein the manufacturing information specification database provides coding for controlling an operation of equipment of an integrated circuit fabrication facility.

28. (Original) The apparatus of claim 27 wherein the remaining plurality of heterogeneous database is included in a content management system documenting the environment and the operational settings of the equipment of a manufacturing facility.

29. (Original) A method for synchronizing manufacturing data retained in a manufacturing specification database retention device and a documentation management system comprising the steps of:
extracting said manufacturing data from the manufacturing specification database;
converting said extracted manufacturing data from a first format of said manufacturing specification database to a second format type of the documentation database;
attaching the manufacturing data converted to the second format type to the documentation database;
receiving a permission semaphore indicating that the manufacturing data is synchronized between the manufacturing specification database and the documentation database; and
transferring the permission semaphore to the manufacturing specification database to authorize usage of said manufacturing specification database.

30. (Original) The method of claim 29 wherein converting said extracted manufacturing data comprises the step of creating an identification of the manufacturing data that includes a manufacturing data identifier and a serial number.

31. (Original) The method of claim 29 wherein receiving a permission semaphore comprises the step of transferring a status indication of the documentation database indicating the completion of the synchronization.

32. (Original) The method of claim 29 further comprising the steps of:
reviewing by a database manager the manufacturing data converted to the second format type of the documentation database; and
generating the permission semaphore for the documentation database.

33. (Original) The method of claim 29 wherein the manufacturing specification database retention device is included in a manufacturing information system for retaining equipment environment and operational settings of equipment of a manufacturing facility. (Original) The apparatus of claim 22 wherein said means for converting said extracted data comprise means for creating an identification of the data that includes a data identifier and a serial number.

34. (Original) The method of claim 33 wherein the manufacturing information specification database provides coding for controlling an operation of equipment of an integrated circuit fabrication facility.

35. (Original) The method of claim 33 wherein the documentation database is included in a content management system documenting the environment and the operational settings of the equipment of a manufacturing facility.

36. (Original) An apparatus for synchronizing manufacturing data retained in a manufacturing specification database retention device and a documentation management system comprising the steps of:

- means for extracting said manufacturing data from the manufacturing specification database;
- means for converting said extracted manufacturing data from a first format of said manufacturing specification database to a second format type of the documentation database;
- means for attaching the manufacturing data converted to the second format type to the documentation database;
- means for receiving a permission semaphore indicating that the manufacturing data is synchronized between the manufacturing specification database and the documentation database; and
- means for transferring the permission semaphore to the manufacturing specification database to authorize usage of said manufacturing specification database.

37. (Original) The apparatus of claim 36 wherein means for converting said extracted manufacturing data comprises means for creating an identification of the manufacturing data that includes a manufacturing data identifier and a serial number.

38. (Original) The apparatus of claim 36 wherein receiving a permission semaphore comprises the step of transferring a status indication of the documentation database indicating the completion of the synchronization.

(Previously Presented) The apparatus of claim 36 further comprising:

- for reviewing by a database manager the manufacturing data converted to the second format type of the documentation database; and
- means for generating the permission semaphore for the documentation database.

39. (Original) The apparatus of claim 36 wherein the manufacturing specification database retention device is included in a manufacturing information system for retaining equipment environment and operational settings of equipment of a manufacturing facility.

40. (Original) The apparatus of claim 40 wherein the manufacturing information specification database provides coding for controlling an operation of equipment of an integrated circuit fabrication facility.

41. (Original) The apparatus of claim 40 wherein the documentation database is included in a content management system documenting the environment and the operational settings of the equipment of a manufacturing facility.

42. (Previously Presented) A computer system in communication with a plurality of heterogeneous database for synchronizing data retained in the plurality of heterogeneous database, said computer system executing a program process comprising the steps of:

extracting said data from a first database 9f said heterogeneous database retained on said first database retention device;

converting said extracted data from a first format of said first database to format types of all remaining of the plurality of heterogeneous database;

attaching the converted data to the remaining plurality of database;

receiving a permission semaphore indicating that the data is synchronized among the plurality of databases; and

transferring the permission semaphore to the first database to authorize usage of said first database.

43. (Original) The computer system of claim 43 wherein converting said extracted data comprises the step of creating an identification of the data that includes a data identifier and a serial number.

44. (Original) The computer system of claim 43 wherein receiving a permission semaphore comprises the step of transferring a status indication for the remaining plurality of heterogeneous database indicating the completion of the synchronization.

45. (Original) The computer system of claim 43 wherein the program process further comprises the steps of:

reviewing by a database manager the data converted to the format types of the remaining plurality of databases; and

generating one permission semaphore for each of the remaining plurality of heterogeneous databases.

46. (Original) The computer system of claim 43 wherein the first database is a manufacturing information system specification database retaining equipment environment and operational settings of equipment of a manufacturing facility.

47. (Original) The computer system of claim 47 wherein the manufacturing information system specification database provides coding for controlling an operation of equipment of an integrated circuit fabrication facility.

48. (Original) The computer system of claim 47 wherein the remaining plurality of heterogeneous database is include in a content management system documenting the environment and the operational settings of the equipment of a manufacturing facility.

49. (Previously Presented) A data retention medium having program code executable on a computer system in communication with a plurality of heterogeneous database for synchronizing data retained in the plurality of heterogeneous database, said program ode, when executed by said program system, performs a program process comprising the steps of:

extracting said data from a first database of said heterogeneous databases retained on said first database retention device;

converting said extracted data from a first format of said first database to format types of all remaining of the plurality of heterogeneous databases;

attaching the converted data to the remaining plurality of databases;

receiving a permission semaphore indicating that the data is synchronized among the plurality of databases; and

transferring the permission semaphore to the first database to authorize usage of said first database.

50. (Original) The data retention medium of claim 0 wherein converting said extracted data comprises the step of creating an identification of the data that includes a data identifier and a serial number.

51. (Original) The data retention medium of claim 50 wherein receiving a permission semaphore comprises the step of transferring a status indication of the remaining plurality of heterogeneous database indicating the completion of the synchronization.

52. (Original) The data retention medium of claim 50 wherein the program process further comprises the steps of:

reviewing by a database manager the data converted to the format type of the remaining plurality of databases; and

generating one permission semaphore for each of the remaining plurality of heterogeneous databases.

53. (Original) The data retention medium of claim 50 wherein the first database is a manufacturing information system specification database retaining equipment environment and operational setting of equipment of a manufacturing facility.

54. (Original) The data retention medium of claim 47 wherein the manufacturing information system specification database provides coding for controlling an operation of equipment of an integrated circuit fabrication facility.

55. (Original) The data retention medium of claim 47 wherein the remaining plurality of heterogeneous databases is included in a content management system documenting the environment and the operational settings of the equipment of a manufacturing facility.